

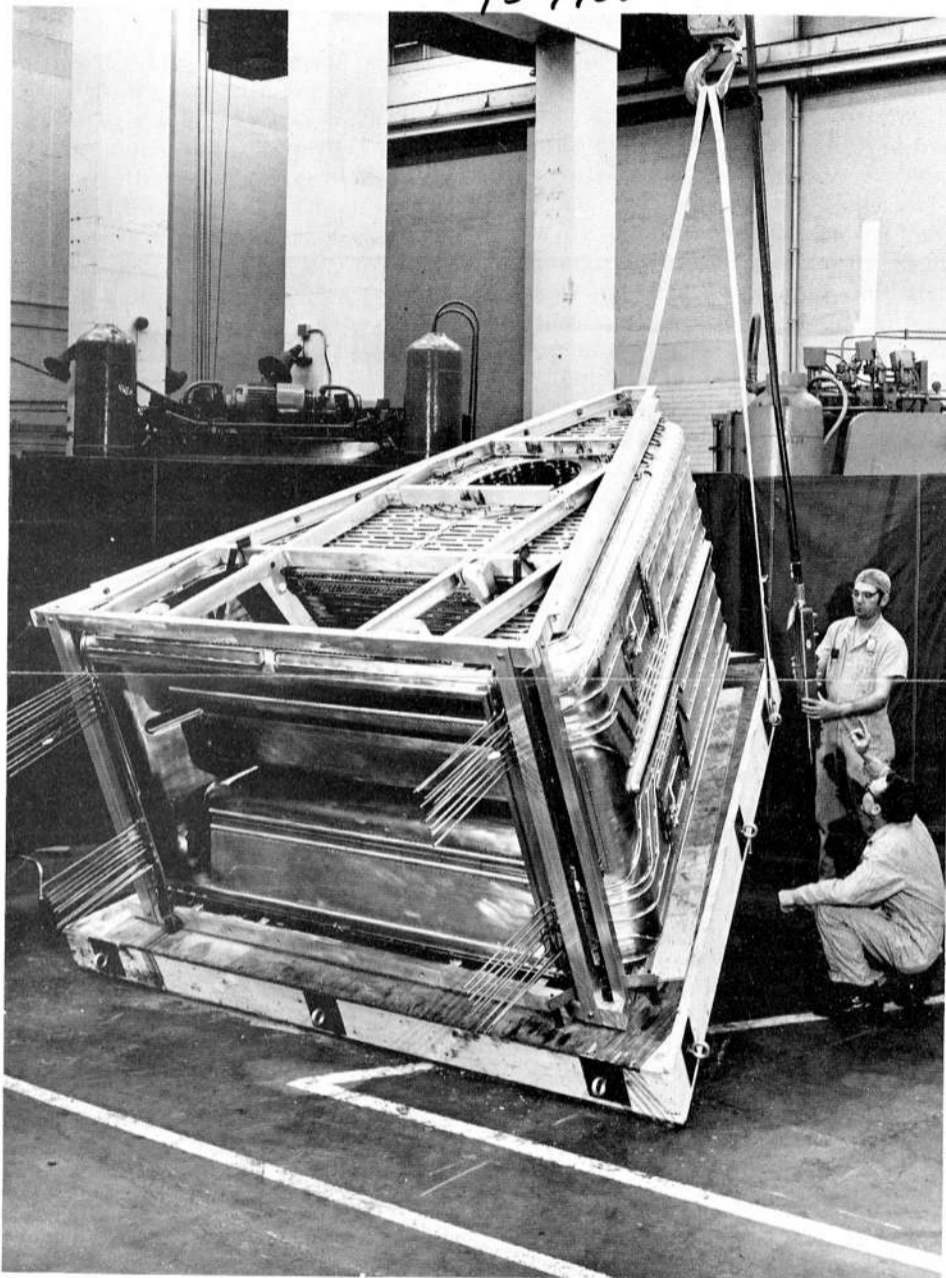
NUCLEAR DIVISION NEWS

A Newspaper for Employees of the Nuclear Division, Union Carbide Corporation

Vol. 6 No. 9

May 1, 1975

Resonator for Indiana University fabricated in Y-12



RESONATOR UNIT — Y-12 Plant craftsmen Robert Belcher, standing, and James Limburg are seen with one of the two radiofrequency resonator units made by Y-12's general shops for Indiana University's new cyclotron facility in Bloomington. The units will provide third-stage acceleration for the cyclotron, which will operate in the energy range of 100 to 1,000 mev.

The Oak Ridge Y-12 Plant has fabricated two copper resonator units for a cyclotron now being assembled at Indiana University in Bloomington. This work was performed at Y-12 because of the Plant's unique capabilities, and the ability to fabricate the units on the schedule developed by the University.

The work was funded by the National Science Foundation under an interagency agreement with the U.S. Energy Research and Development Administration.

The cyclotron, known as the Indiana University Cyclotron Facility (IUCF), has a unique design and will be used to explore atomic particle reactions in the energy range of 100 to 1,000 million electron volts. It consists of three separate machines, each progressively larger, housed in a laboratory about the size of a football field.

The first, and smallest, of the three machines is an ion source which provides the accelerated protons used in the experiments. This machine "fires" the ions to the second machine, a small cyclotron. The second machine further accelerates the ions and directs them to the third machine, a large cyclotron.

The ions are further accelerated by the large cyclotron and are directed toward their target at about half the speed of light. Reactions which occur

when the ions strike the nuclei of their target elements are recorded by data-gathering instruments.

Y-12 Plant's participation in the fabrication project was the construction of two copper components which form the radio-frequency resonator units for the largest of the three cyclotron stages. These units, which will be assembled between four magnets over 20 feet tall and weighing 500 tons each, will provide the acceleration in the cyclotron. Each resonator is composed of several sections of copper plate which were assembled to form a triangle shape with dimensions of 10 feet by 10 feet by 10 feet by 5 feet. These plates were fabricated within a tolerance of .015-inch flatness. Each of the two units contains about one-half mile of copper tubing and over 2,000 feet of silver braze welding.

According to David Gillespie, department head in the Fabrication Division, the two units required about 12,500 man-hours to complete and involved the services of sheetmetal, welding, and machining craftsmen. The first resonator was completed in October and the second was completed recently.

Project engineer for the job was George Cobham of Y-12's Product

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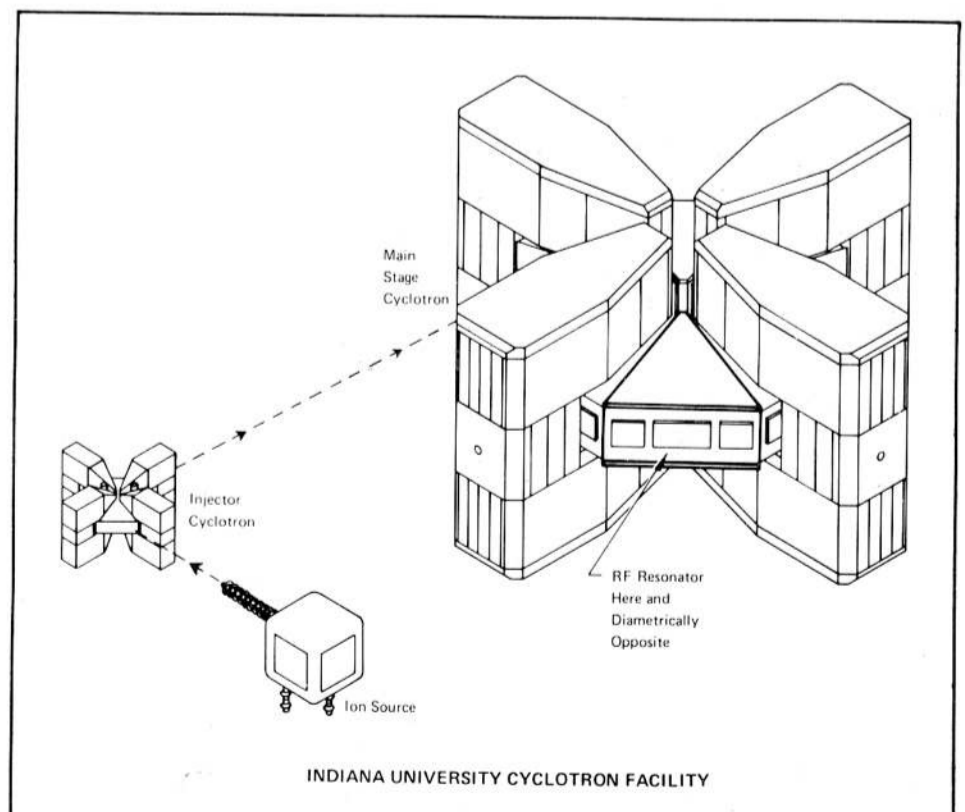
Dr. Lincoln page 9

ANNUAL MEETING

"Profits reinstated in business put people to work," F. Perry Wilson, chairman of the board of Union Carbide and chief executive officer, told stockholders at the corporation's annual meeting April 23. "It should be recognized that profits stimulate the economy," he stated.

Despite the drain of a recession, Union Carbide's relative performance is still quite strong, William S. Sneath, UCC President, told the stockholders.

Union Carbide's major expansion programs were detailed, with capital expenditures expected to reach \$1 billion by next year.



RESONATOR SKETCH — This drawing shows the three-stage cyclotron being assembled at Indiana University. Y-12 craftsmen made the RF resonators for the main stage of the facility.

6th in series

Insurance Benefits cost 4.5¢ per payroll dollar

This article deals with the cost of Life Insurance and Medical Insurance. In prior articles we have discussed the cost of Vacations, Holidays and other time paid for but not worked, Social Security, and Pensions and Retirement. Subsequent articles will deal with the Savings Plan and "All other benefits".

Basic Life Insurance

This part of the insurance program provides life insurance in an amount of not less than twice your annual rate of earnings. If this annual rate is not in exact thousands, it is rounded to the next higher thousand so that the amount of insurance always is in even thousands. The cost is shared by the Company and the employee. Deductions are made from your paycheck each pay period to cover your part of the payment. The Company's payments vary depending upon the claims experience of Carbide employees as a group. They have been greater than those of employees in each of the past six years. In 1974 they amounted to \$6.60 per year per \$1,000 coverage up to \$20,000 and \$4.62 per year per \$1,000 for coverage in excess of \$20,000. The difference in rates is due to the fact that total and permanent disability benefits are also provided on basic life insurance up to \$20,000.

With the figures above you can determine how much the Company is paying for your basic life insurance by: (1) computing the Company's annual cost in your case; (2) dividing this amount by your annual earnings, and (3) multiplying by 100 to convert to percentage of annual pay or cents per payroll dollar.

The average cost for the Nuclear Division as a whole is 1.4 cents per payroll dollar.

Supplemental Life Insurance

Each employee who elects to carry it is provided with supplemental life insurance in an amount equal to one-half the amount of basic insurance. Naturally your costs increase if your insurance coverage increases, but also, your costs, which are shown in the Group Insurance Booklet, increase as you move from one age bracket to another. The Company pays no part of the cost for this insurance.

Medical Insurance

Although several different insurance companies provide medical coverage for different employee groups, all Nuclear Division employees are provided essentially the same benefits. The premiums paid to the different insurance companies vary from time to time depending on the experience of the particular group involved. In general, the rates are set at a level to permit the insurance company to pay the claims that are incurred and to provide enough money to take care of its operating expenses.

Basic Hospital-Surgical Expense

The Company pays the full cost for the basic hospital-surgical plan. The average cost in 1974 across the Nuclear Division was approximately \$31.50 per employee per month (ranging from a high of approximately \$45 per employee per month for family coverage in one group, to a low of approximately \$10 per employee per month for employee-only coverage in another group.)

Major/Special Medical Expense

Cost for Major and/or Special Medical Expense is shared equally between the Company and Employees. The average cost to the Company across the Nuclear Division is approximately \$4.25 per month per employee (ranging from a high of approximately \$6.00 per month per employee for family coverage in one group to a low of approximately \$1.60 per month per employee for employee-only coverage in another group).

The average Company cost for medical expense, then, is \$31.50 plus \$4.25, or \$35.75 per month. Multiplying this by 12 months, we get an annual cost of \$429.

To determine what part of your annual pay this represents, divide \$429 by your annual pay and multiply by 100 to convert to percentage or to cents per payroll dollar.

The average cost for the Nuclear Division is 3.1 cents per payroll dollar for all medical insurance.

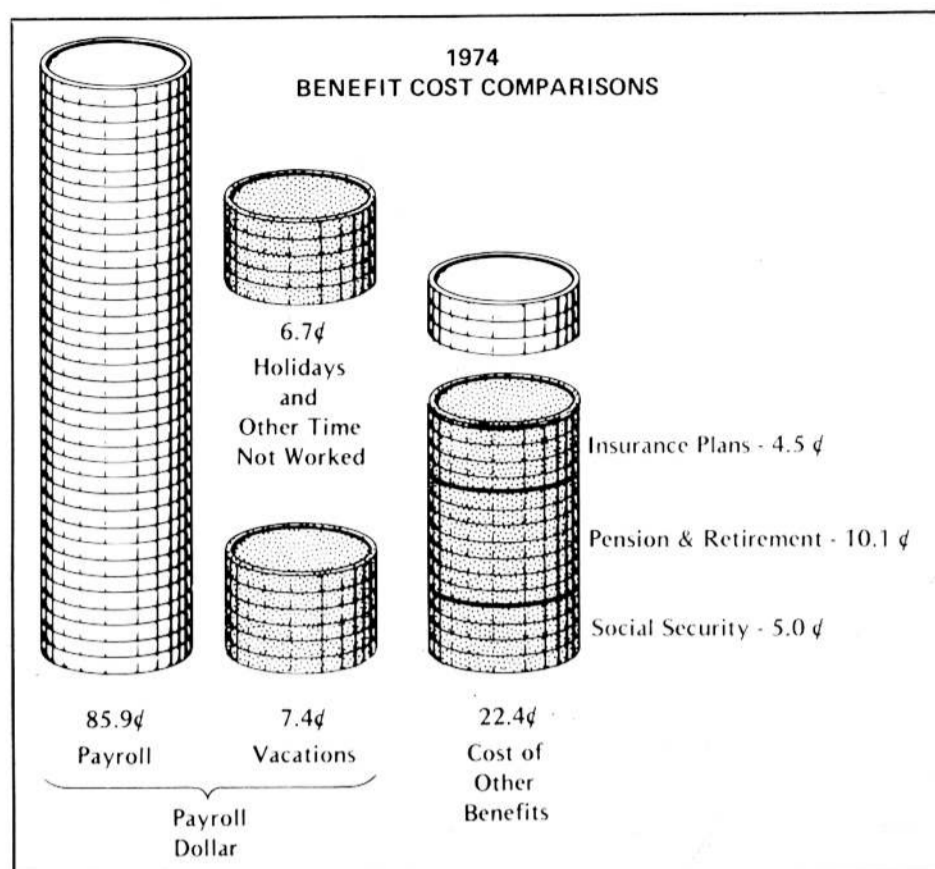
Adding this (3.1 cents) to the amount given above for life insurance (1.4 cents), the total Company costs for Life and Medical Insurance is 4.5 cents per payroll dollar.

Now let's look at the Benefits Plans Box Score we have been building, which shows the Company's cost per payroll dollar for the various benefits.

| BENEFITS COST BOX SCORE | |
|--------------------------------------|-------|
| Vacations | 7.4c |
| Holidays and Other Time Off with Pay | 6.7c |
| Social Security | 5.0c |
| Pension and Retirement | 10.1c |
| Insurance Plans | 4.5c |
| Savings Plan | -- |
| Other Benefits | -- |
| Total | 36.5c |

Watch Out for Sol

The sun is a very fine fellow in small doses. Too much could lead to skin cancer, says the American Cancer Society. Take precaution while in the sun; use lotions, wide hats and umbrellas. See your physician promptly when a sore does not heal.



Y-12 PLANT

JOIN car pool from Meadowview Garden area, Harriman, to Central Portal, H Shift. M.G. Hedgecoth, plant phone 3-5938, home phone Harriman 882-9684.

CAR POOL member from east end of Oak Ridge to North or Biology Portal, straight day. N.J. Schulman, plant phone 3-5376, home phone Oak Ridge 483-8207.

ORGDP

RIDE from east part of Oak Ridge, to Portal 5, ORGDP, D Shift. Will accept ride or join car pool. Bill Bullins, home phone Oak Ridge 483-7233.

LABORATORY

JOIN CAR POOL from Gulf Park Subdivision, West Knoxville, to either portal, 8 or 8:15 a.m. shift. Joe Pace, plant phone 3-6022, home phone 690-0325.

RIDE from Cedar Bluff, Walker Springs Road area, West Knoxville, to East Portal, 8 or 8:15 a.m. shift. Judy Morton, plant phone 3-6681, home phone, 693-3167.

RIDE from Cedar Lane, Windsor Court Apartments, North Knoxville, to East or South Portal, 8 a.m. shift. Merl Houser, plant phone 3-6441, home phone 688-4093.

Gerald Lamb promoted at Paducah facility



Lamb

Gerald W. Lamb has been promoted to a foreman in the Paducah Gaseous Diffusion Plant. He is in the Power, Utilities and Chemical Operations Division.

A native of Chicago, Lamb worked as a shift foreman with the B. F. Goodrich Company, Calvert City, before joining Union Carbide two years ago. He attended Tri-State College, Angola, Ind.

Lamb lives in West Paducah, with his wife, the former Wanda Woods. They have four children, Ricky, Lee, Kevin and Bryan.

PRESIDENTIAL SPORTS AWARDS

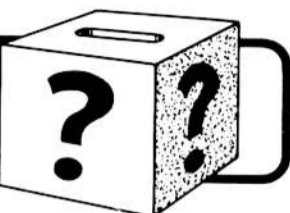
Two Oak Ridge Gaseous Diffusion Plant employees earned their coveted Presidential Sports Awards recently. Thomas E. Douglass, Engineering, took his qualification's certificate in jogging; while Charlie Frye, also of Engineering, took his round in tennis.

NUCLEAR DIVISION SAFETY SCOREBOARD

Time worked without a lost-time accident through April 24:

| | | |
|------------|---------|---------------------|
| Paducah | 38 Days | 248,000 Man-Hours |
| Laboratory | 17 Days | 422,500 Man-Hours |
| ORGDP | 14 Days | 338,000 Man-Hours |
| Y-12 | 51 Days | 1,578,000 Man-Hours |

QUESTION BOX



If you have questions on company policy, let us know. Write the Editor, **Nuclear Division News** (or telephone your question in, either to the Editor, or to your plant contact). Your name will not be used in the question, and you may be given a personal answer if you wish.

QUESTION: What ever happened to the possibility of sabbatical leaves being granted at the Holifield National Laboratory?

ANSWER: The normal sabbatical leave program calls for one year sabbatical each seven years as an entitlement. Such a program would mean that 14 percent more staff would be necessary, which would increase costs by that amount. Very few laboratories of any type have such a program. No ERDA contractor has such a program, although a few do grant a very limited number of sabbaticals.

HNL's present policy encourages long- and short-term assignments elsewhere when they are clearly to the benefit of HNL and the sponsors' programs. This is implemented by a professional employee being placed on assignment or on a leave of absence. In the former case HNL is reimbursed from programmatic funds for that assignment. In the latter case the employee's pay comes from the institution involved.

QUESTION: For the past 25 years or more, the steam plant at ORGDP has been polluting the air with coal smoke, or worse, fly ash that settles on every car in the K-1035 parking lot. The fly ash is so bad you track it into the plant and your car, not to mention the painted surface of your car. Could the employees of the barrier plant and K-1420 have a little consideration in this matter? If not, what recourse can we take?

ANSWER: We recognize that there is a problem and that it has been worsened by the requirement that the old boilers be fired exclusively with coal due to the shortage of natural gas. To alleviate the problem, a new oil-fired boiler was placed in operation in January and we hope to get funds for electrostatic precipitators for the coal-fired ones in FY '77. The process steam produced by these boilers is essential to plant operations and to provide required building heat.

QUESTION: It seems to me that the present Union Carbide Pension Plan discriminates against the unmarried employee. It is my understanding that a surviving spouse of an employee who dies after age 55 automatically receives a surviving spouse benefit from the Pension Plan, or a surviving spouse receives a benefit upon the death of a retired employee who chooses the surviving spouse option. However, survivors of any unmarried employee receive nothing under similar circumstances.

I would like to suggest that the words "surviving spouse" be changed to "surviving beneficiary" and that the beneficiary have the option of electing a lump sum payment or an actuarial monthly payment.

I am nearing early retirement age, unmarried, and feel that I must marry to protect my 30 years of Carbide employment under the present Pension Plan. Is Carbide trying to promote marriage?

ANSWER: It is true that only a surviving spouse can be a beneficiary under the Pension Plan. Although this may appear to be unfair to unmarried employees, it is a limitation found in nearly all noncontributory Pension Plans. As an indication of its widespread acceptance, when Congress enacted the Pension Reform Law in 1975, it required only that a surviving spouse be paid survivors' benefits.

Union Carbide, of course, continually reviews its benefit plans for deficiencies, and the question you have raised will be included in the next study of the Pension Plan.

QUESTION: There are, and have been, openings in the Y-12 Plant for Code 45 jobs, but these are never posted, and are filled without such procedure. Why?

ANSWER: The Job Opportunity System was revised in February 1975 to provide for posting level 3 (Code 45) job openings only if they are the entry job to a family series (laboratory aide, drafting trainee, computer aide, etc.). Prior to that time all Level 3 job openings at the Y-12 plant were posted.

QUESTION: In reference to the article on "Toll Enriching Services" on page 3 of the January 23 **Nuclear Division News**, does the 114 million dollars include some profit? If so, how much?

ANSWER: The basis for charges as set forth in the Atomic Energy Act is to recover "the Government's costs over a reasonable period of time." The money received for toll enrichment is turned in to the United States Treasury.

QUESTION: How much energy do "speakers" on the wall use? We have three and four speakers in some offices and some of them run continuously, even when sound is turned too low to be heard. Perhaps this is one way to conserve electricity.

ANSWER: Most office speakers are connected to consume less than 1 watt of electrical energy. The average would probably be 1/4 watt. By comparison, the energy required for lighting a 100-watt lamp could power 400 speakers. In other words, any energy savings in connection with turning speakers off would be very minimal.

(Continued on page 10)

Toll enrichment to \$45 million for 1st quarter

Approximately \$45 million in toll enrichment sales were reported at the Oak Ridge Gaseous Diffusion Plant during the first quarter of 1975. The figure compares with approximately \$28 million in sales recorded for the same period last year.

During the first quarter of 1975 more than 540,000 pounds of enriched uranium were shipped for use in nuclear reactors in Belgium, Japan, Switzerland and West Germany, and in the states of Illinois, Massachusetts, Minnesota and South Carolina.

Under the Toll Enrichment Program, privately-licensed owners bring their uranium to a gaseous diffusion plant for enriching on a toll basis. Customers are charged for the services required to separate from natural uranium the desired percentage of the uranium-235 isotope, usually between two and three percent.

Nobel laureate set for May 13 lecture

Eugene P. Wigner, Nobel prize winner in physics and first Research Director of Holifield National Laboratory, will present a lecture on his perceptions of the present day



Wigner

interactions of science and society and on how these interactions could be modified. Wigner is best known for his theoretical analyses and discoveries on the structure of the atom and is the principal consultant on the Laboratory's research on civil defense.

Wigner's subject will be "Science and Society."

In addition to Sigma Xi members, the public is invited to hear the lecture on May 13, 8 p.m., in the American Museum of Atomic Energy.

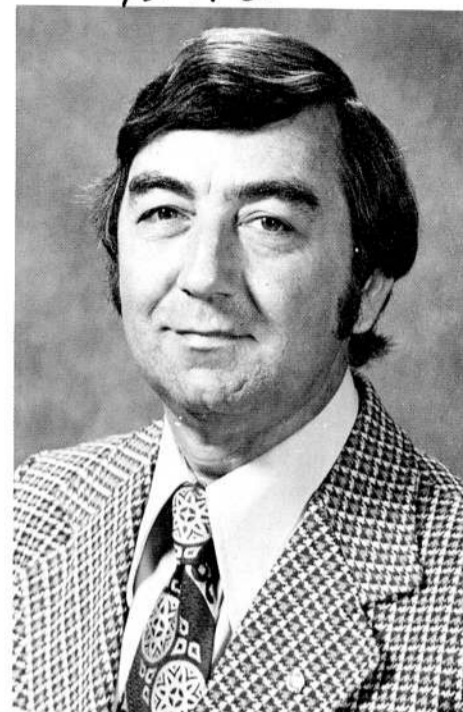
Sigma Xi is an honorary scientific society. The Oak Ridge Chapter is composed of members who were elected during their academic years. All active and inactive members not affiliated with the local chapter are invited to do so. Roger Cloutier, Oak Ridge Associated Universities, Special Training Division, will take applications.

WANTED



Y-12 PLANT

JOIN CAR POOL from Wartburg to North or East Portal, 8 a.m. shift. Norman Bowles, plant phone 3-7682, home phone, Wartburg 346-3780.



Paul F. Boyer

Y-12's Boyer named SME area chairman

Paul F. Boyer, computer applications analyst in Numerical Control Engineering at the Oak Ridge Y-12 Plant, was installed as chairman of the Society of Mechanical Engineers' Region V, at Tulsa, Okla. recently.

A native of Pottsville, Pa., Boyer is a Certified Manufacturing Engineer and a graduate of Pennsylvania State University. After serving in the U.S. Air Force, he began work in the Nuclear Division in 1957. He joined SME in 1964, and has served on various committees, holding elective office with the Knoxville-Oak Ridge Chapter 107, as well as in SME's Region V. He received Region V's award of honor for outstanding effort to the society in 1973.

He lives at 3208 Walnoaks Drive, Knoxville, with his wife, Ramona, and daughter, Lisa.

Boyer will direct the activities of Region V which includes 45 local chapters in 14 states as well as Mexico and Puerto Rico.

SME is a worldwide organization of engineering with more than 40,000 members in 40 countries. The society's purpose is to advance scientific knowledge in the field of manufacturing engineering and to apply its resources to research, publishing and disseminating such information through various educational media such as conferences and expositions.

"My dentist sees no danger signals"



American Cancer Society

Savings bond drive off to good start in initial report

Preliminary reports show the U.S. Savings Bond Campaign got off to a good start on April 14 . . . with almost a thousand additional employees signed up to purchase bonds through payroll savings during the first four days.

The Y-12 Plant led the four plants in the first report with a beginning of 59 percent, now up to 64.7 percent. The Oak Ridge Gaseous Diffusion Plant has increased its participation from 54.9 to 61.7 percent in the first report. Holifield National Laboratory increased from 31.5 to 35 percent, and the Paducah Gaseous Diffusion Plant increases from 54.5 to 59.3 percent.

A new total of 8,671 employees (from a possible 15,940) were shown as participants in payroll savings in the preliminary report.

Many Nuclear Division parents are finding the educational plan an excellent vehicle for savings needed for college expenses, which, of course, are rising almost daily.

There is a decided tax break in buying bonds in a child's name with the parent listed as the beneficiary. At the end of the first year, the parent files a Federal income tax return in the child's name listing the year's increase in bond value as income to the child. No other returns need be filed, nor tax paid, unless the child's income exceeds his unearned personal exemption (presently \$750).

Final reports on the drive will be reported in the next issue of the **Nuclear Division News**.



FIRST WITH THE MOST — The Purchasing Division of the General Staff is the first division in the company to report that they have signed up 100 percent in payroll deductions, purchasing U.S. Savings Bonds. Setting the pace for the entire Nuclear Division, Purchasing people know a good investment when they see it.

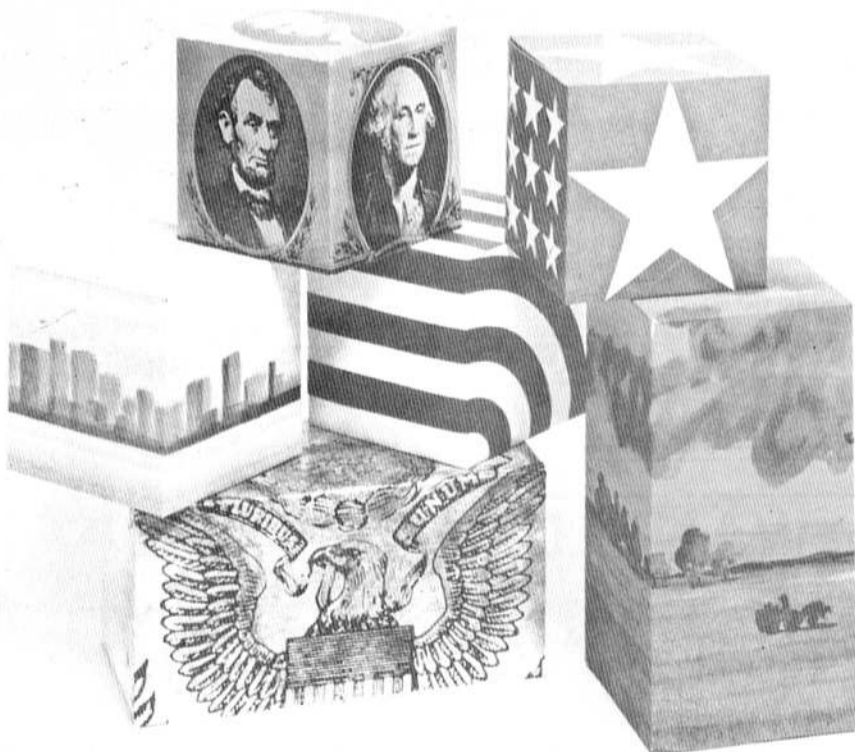
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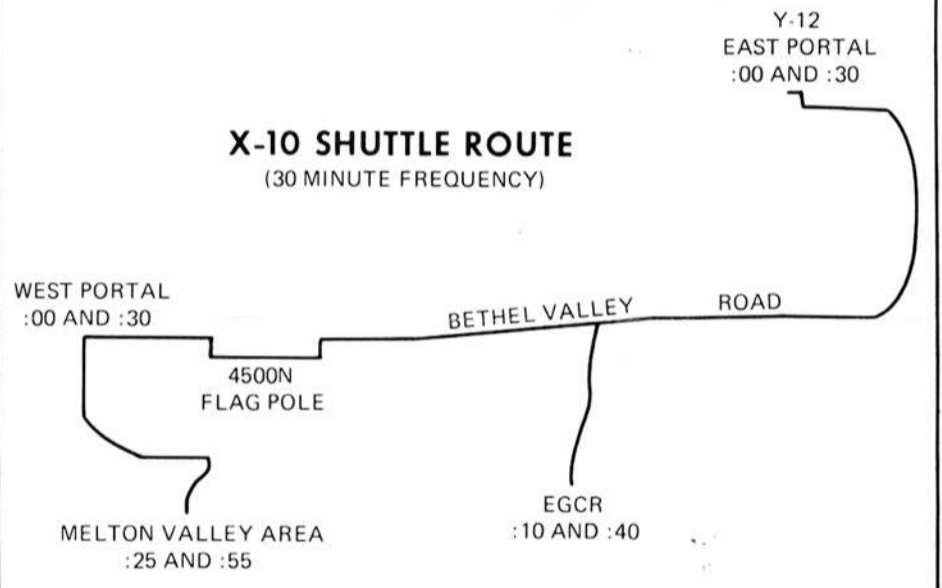
LABORATORY

CAR POOL MEMBERS from Waddell Circle, West Outer Drive or Pennsylvania Avenue areas, Oak Ridge, to East Portal, 8:15 a.m. shift. Tom Burnett, plant phone 3-6939, home phone 483-1975; or Dick Reed, plant phone 3-1801, home phone 483-3458.

TAKE STOCK IN AMERICA Buy U.S. Savings Bonds



X-10 SHUTTLE ROUTE (30 MINUTE FREQUENCY)



Shuttle bus service will be reduced

Effective May 12, the Nuclear Division shuttle bus systems between ORGDP and Y-12, and between the East Gate at Y-12 and ERDA-Purchasing, will be discontinued. Utilization of the two systems is marginal, and neither meets the break-even point on passengers.

A reevaluation conducted recently by the Oak Ridge Energy Conservation Committee (which consists of representatives from each plant and ERDA-ORO) indicated that the present passenger load on the K-25 - Y-12 shuttle buses averages about 1.2 passengers per one-way trip. The break-even point on gasoline savings requires a passenger load of 1.9 passengers per one-way trip. Under these conditions, 14 more gallons of gasoline per day are being used by the shuttles than would be used if the passengers drove vehicles.

A shuttle service will be continued between Holifield National Laboratory and Y-12, as there are sufficient passengers to meet the break-even point on gasoline in that operation.

Schedules between the Laboratory and Y-12 have been changed. The

map above shows the new route. The Melton Valley (7500-7900) and EGCR areas of the Laboratory, which were not previously served by bus, are included in the new schedule. Shuttles will run between Melton Valley, the main Laboratory area, the EGCR area, and the Y-12 East Portal on a 30-minute frequency. En route to Y-12, the shuttles will connect with the intra-laboratory buses on the hour and half-hour at the Laboratory's West Portal. The new schedule and map will be posted on all official bulletin boards.

Regular passengers of the discontinued shuttles will be given pocket-size copies of the schedules. Anyone else desiring copies of the schedule should contact the Traffic Department at the Laboratory (3-6374.)

No increase in gasoline allocations will be made for travel between ORGDP and Y-12, nor will any additional vehicles for such travel be provided. Employees, however, are encouraged to coordinate trips with other people and to offer rides to persons waiting at Y-12 and ORGDP portals when traveling between those two areas.

ORGP's Arendt elected United Fund president

John W. Arendt, Laboratory Division at the Oak Ridge Gaseous Diffusion Plant, was recently elected president of the Board of Directors for the Anderson County United Fund.

A native of Fredonia, Wisc., Arendt received his B.S. in chemical engineering from Marquette University in 1943, and soon thereafter was employed on the Manhattan Project at the University of Chicago. He joined Union Carbide's Nuclear Division as a supervisor at ORGP in 1945. He was the first Civilian Applications Coordinator for ORGP and served in this capacity from 1956 through 1962, when he became superintendent of Inspection, Metallurgical, and Nuclear Engineering in the Engineering Division. He is currently superintendent of Physical Measurements, Inspection, and Nuclear Technology.

Arendt is a member of the Executive Committee of the Anderson County Community Action Council; vice president of the East Region, American Cancer Society; and a member of the State Finance and Budget Committee of the American Cancer Society. A registered professional engineer with the State of Tennessee, he is a member of the American National Stan-



John W. Arendt

ards Institute, Inc. Arendt serves as chairman of ANSI-N14.1 and on the board of ANSI-N18. He is a member of the American Nuclear Society, the American Management Association, the American Ordnance Association, the Institute of Nuclear Materials Management, and Task Force Five of the U.S. International Standards Organization. He is chairman of the 1975 Nuclear Division United Way.

Arendt resides with his wife and two sons at 109 Caldwell Drive, Oak Ridge.

Thomas gets ANS's first award on nuclear criticality safety

Joseph T. Thomas, Computer Sciences at Holifield National Laboratory, has been named recipient of the American Nuclear Society's "Nuclear Criticality Safety Achievement Award." Thomas is the first to receive the award, which was established by the executive committee of the ANS Nuclear Criticality Safety Division last fall. The award, consisting of a specially-prepared engraved certificate and a cash prize, was set up to provide recognition for outstanding contributions in the fields of nuclear criticality safety.

Thomas, a native of Detroit, Mich., served in the U.S. Navy. He received his bachelor's degree in mechanical engineering from the University of Detroit, where he was a member of Pi Tau Sigma and Tau Beta Pi honorary societies. He later received a master's degree in mathematics from the University of Michigan. Thomas attended the Oak Ridge School of Reactor Technology (ORSORT) after joining the Laboratory staff in 1951. Prior to joining the Computer Sciences organization in 1974, he worked as a research staff member in the Oak Ridge Critical Experiments Facility.

In addition to the ANS, Thomas is a member of the American Physical Society and the American Association for the Advancement of Science. He is the Nuclear Division's representative to the Energy Research and Development Administration's Committee on Criticality, and serves on the Laboratory Director's Criticality Review Committee. Thomas is chairman of ANSI project N16.5, "Guide for Nuclear Safety in the Storage of Fissile Materials." He is also a member of the ANS Standards Subcommittee 8 on Fissile Materials outside Reactors, and was chairman of the Nuclear Criticality Safety Division in 1972-73. Thomas was one of the U.S. delegates to the IAEA Symposium on Criticality Control of Fissile Materials which was held in Stockholm, Sweden, in 1965. He has



Joseph T. Thomas

authored numerous publications on critical experiments, their analyses and their application to nuclear criticality safety.

Thomas was cited by the ANS for his outstanding contributions in neutron interaction analysis through criticality experiments, and his development of calculational models that generated improved nuclear criticality safety criteria for the storage and shipment of fissionable materials throughout the nuclear industry.

Thomas and his wife, the former Wanda Grim of Sevierville, have three children. They reside at 16 Laurel Place, Norris.

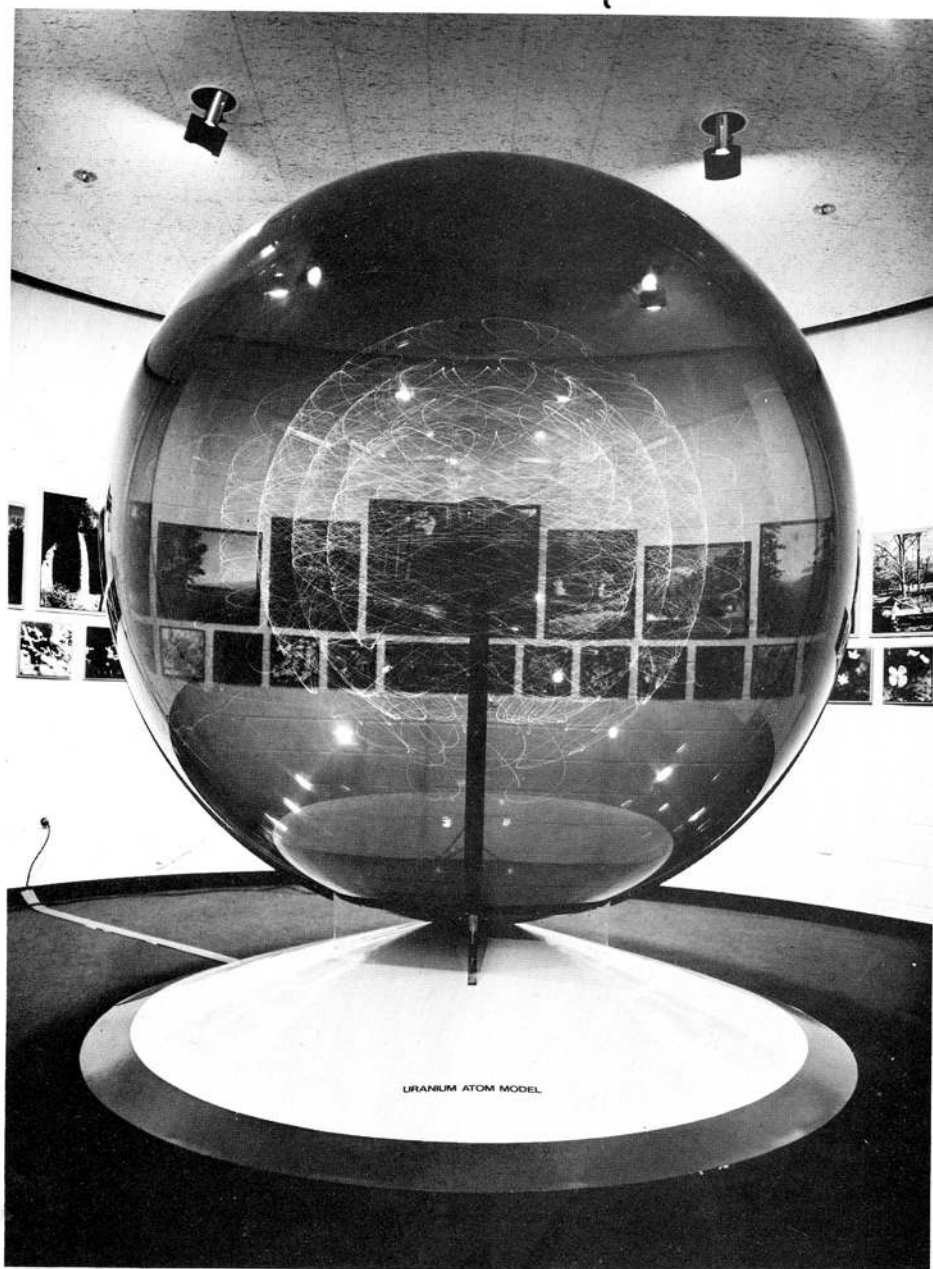
ERDA land cutting of firewood reset

There will be a repeat of the highly successful "wood-cutting" on selected ERDA - Oak Ridge areas, Saturday, May 10. This time, Dennis Bradburn, Environmental Sciences Division at Holifield National Laboratory, advises that cutting will be behind logging operations from hardwood cuts of saw timber, which will make the firewood cutting much easier.

Interested parties should gather at the intersection of the Turnpike and Highway 58, about five miles west of the west end of Oak Ridge (commonly referred to as the "Y") no later than 8 a.m., May 10.

Members of the forest management staff will accompany groups to the cutting areas, and road access will be provided for the removal of the firewood. Again, the Laboratory people request that no children under age 12 be brought along.

The cutting will provide local citizens with an excellent opportunity for firewood next winter to alleviate the "energy crunch."



CORPORATE CONTRIBUTION — The model of the uranium atom, near the lobby of the new American Museum of Atomic Energy, was given to the museum by Union Carbide. The revolving lights represent the atom's electrons and this time-study photograph by Bill Norris graphically illustrates the effectiveness of the popular display.

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New potassium boiler could cut energy costs by factor of 25%

Scientists and engineers at Holifield National Laboratory are developing a new type of boiler for future electric generating stations which could enable them to cut fuel consumption by 25 percent. The boiler would be the key to increasing the efficiency of electric power stations through an engineering concept called the "potassium vapor topping cycle."

As conceived by Laboratory researchers, a commercial-size power plant would be equipped with a potassium boiler composed of 148 modules, each 22 feet long and weighing 6,000 pounds. One such prototype module has been constructed by the Laboratory's Plant and Equipment Division. It is slated for a variety of tests over the next two years. Experiments to be conducted by the Energy and Reactor Divisions will determine the module's power output, operability, corrosion characteristics, and economics.

Heat waste noted

At present, less than half of the heat produced in a steam electric generating plant, whether from the burning of fossil fuels or from a nuclear reactor, is converted to electricity. Much of the total heat produced - sometimes as much as two-thirds - is wasted to the environment, frequently with adverse effects. The goal of the Oak Ridge program is to increase the efficiency of electrical generating plants to more than 50 percent.

The basic limitation upon efficiency is due to the almost universal use of steam in driving the turbines that, in turn, drive the generators that produce electricity. It is a well-known fact to utility company engineers that the higher the temperature of the steam, the higher the efficiencies of their electrical generating plants. For several practical reasons, about 1,000 degrees F is the limit. At that temperature, the steam pressure can be as high as 4,000 pounds per square inch. At temperatures much higher than 1,000 degrees, the tubes and piping begin to weaken and corrosion by the steam seriously shortens the life of the steam generator.

Low pressure boiling

The Oak Ridge boiler extends these natural limits on the steam system by "topping" it with a potassium vapor cycle. In this way, the turbine inlet temperature can be increased to 1,500 degrees without losing piping strength or reliability, and the system achieves the greatly increased efficiency that goes with these higher temperatures.

The boiler will boil potassium, a metal which melts at 146 degrees F. Unlike water, potassium can be boiled at 1,500 degrees F under low pressures - only about ten pounds per square inch above atmospheric pressure. At so low a pressure, the special stainless steel pipes will have sufficient strength, even when red hot.

Waste is reduced

The vaporized potassium would be expanded through a spinning turbine

which would drive an electric generator. It would emerge from the turbine still hot enough to make steam at the customary 1,000 degrees. This steam would drive another turbine to produce electricity in a conventional steam plant. It is this "dual vapor" scheme that accounts for getting more electricity out of a given amount of heat.

The ability of this system to convert more heat to electricity would cause the waste heat rejected to rivers, lakes or to the atmosphere to be cut nearly in half.

The combination potassium-steam cycle could be adapted to new fossil-fueled plants as well as to advanced fission or controlled fusion reactor plants of the future.

Research on the potassium vapor topping cycle concept is funded by the National Science Foundation through an interagency agreement with ERDA.

Technical Calendar

May 6

Science and Technology colloquium: "The Morphology of the Sun," Einar Tandberg-Hanssen, NASA, Marshall Space Flight Center. Building 4500N, Central Auditorium, 11 a.m.

Lecture series on LMFB program, speakers from Advanced Nuclear Systems Divisions, Westinghouse Electric Corporation. "CRBR Design Features and Schedule," W.M. Jacobi, 1:30 p.m.; "Role of CRBR in the Approach to Commercialization of LMFBs," J.J. Taylor, 2 p.m.; "CRBR Reactor Design," C.A. Anderson, 2:40 p.m.; "CRBR Plant Design," J.J. Buggy, 3:10 p.m.; "CRBR Safety and Licensing," J. Graham, 3:40 p.m. Central Auditorium, 4500N.

May 7

Biology seminar: "Regulation of Spore Germination in the Sensitive Fern Ethylene and CO₂," Maurice Edwards, UTC, 12:15 p.m. Small Conference Room.

Nuclear Division Deaths

Edward Byrd, an electrician in the Oak Ridge Gaseous Diffusion Plant's Maintenance and Fabrication Division, died April 11 at Loudon Memorial Hospital.



Mr. Byrd

He served in the U.S. Air Force during World War II, and joined Union Carbide in 1951. Survivors include his wife, Kaythryn Hinton Byrd, O Street, Lenoir City; a son, Charles Wayne Byrd; a daughter, Sharon Coker; his mother, Amy Byrd; brothers, James, Robert and Ronald Byrd; sisters, Marlene McNabb, Joyce Donahoe and Amy Range; and two grandchildren.

Funeral services were held at the Friendship Baptist Church with the Rev. Clarence Sexton officiating. Interment was in the Pleasant Hill Cemetery.

Ralph L. Jeffries, a foreman in research services in Y-12, died April 22.

A native of Louisville, Tenn., he came to Y-12 in 1944, and worked briefly at the Holifield National Laboratory in the early fifties. A veteran of the Marine Corps, he also worked at the Aluminum Corporation of America before coming to the Y-12 Plant. He attended The University of Tennessee.

Survivors include his wife, Fannie Hughes Jeffries, Route 1, Louisville; sons, Richard, Charles and Ralph Jeffries; his mother, Mrs. Lee Jeffries; one granddaughter; a sister, Betty Jones; and a brother, Allen Jeffries.

Funeral services were held at the Smith Mortuary with the Rev. Charles Burnett officiating with interment in the Louisville Cemetery.

McCloud, Willard promoted at ORGDP



McCloud

Willard

Two promotions have been announced at the Oak Ridge Gaseous Diffusion Plant.

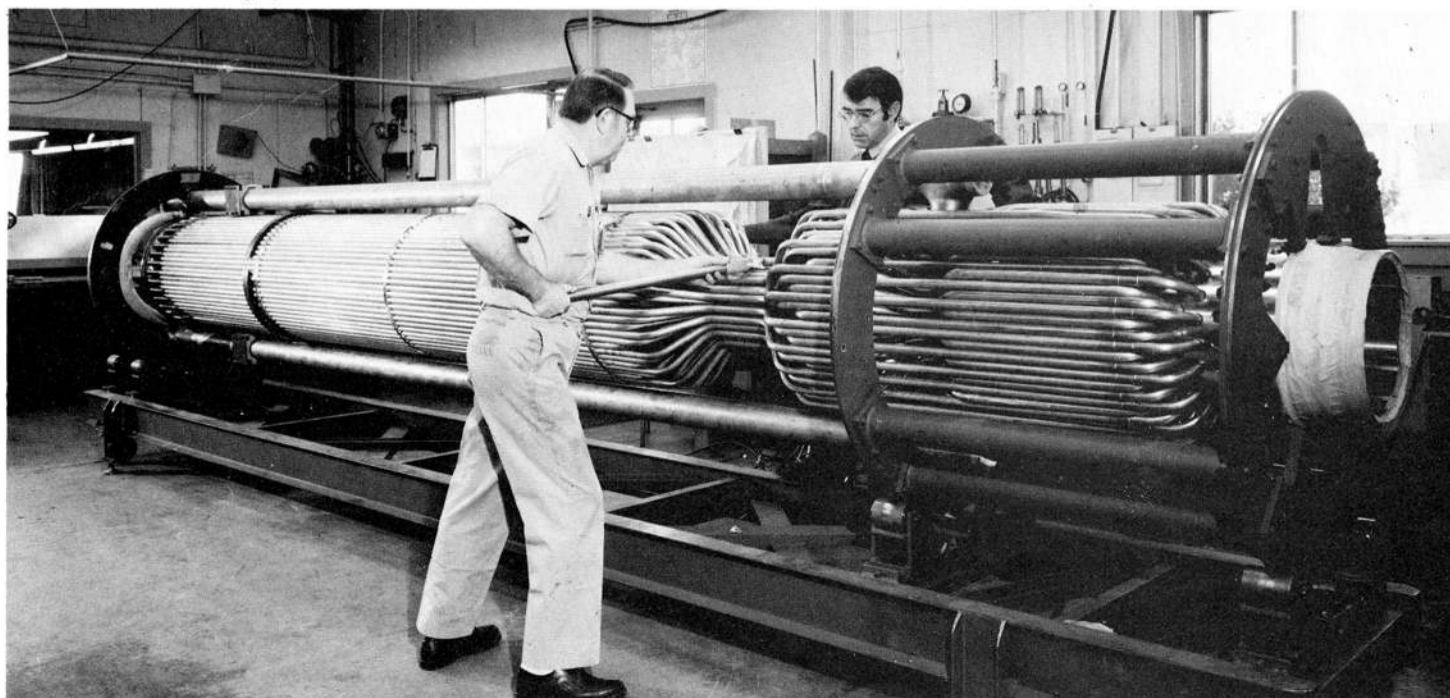
Marshall B. McCloud has been promoted to a maintenance foreman in Fabrication and Maintenance. A native of Lebanon, Va., he served in the U.S. Army before joining Union Carbide 29 years ago.

He and his wife, the former Rubye Jones, live at 4305 Royal View Road, Knoxville. They have two married daughters.

Mrs. McCloud is employed in Y-12's Shifts Superintendents' Division.

Michael C. Willard has been named a barrier foreman in Barrier Manufacturing. Born in Knoxville, he has a B.S. in business administration from The University of Tennessee.

He and his wife live at 5700 Pleasant Ridge Road, Knoxville. She is the former Gayle Coram.



BOILER ASSEMBLED — The potassium boiler is assembled at the Holifield National Laboratory welding and brazing shop. At left is Bill Fox, Plant and Equipment Division boilermaker, with Dave Lloyd of the Reactor Division, project engineer for the Potassium Vapor Topping Cycle Test Program.

Division Retirees



Bennett

Harris

William O. Harris, ending 20 years of service, retired at the end of April. He lives at Route 2, Lake City, and was employed in the Y-12 Plant's Fabrication Division.

Five other Y-12ers elected early retirement last month.

Charles D. Bennett, electrical and electronics department, came to Y-12 in 1951. He lives at 709 Eagle Bend Road, Clinton.



Loving

Maney

William T. Loving, research services, lives at Route 1, Clinton. He ended 32 years company service.

Herman A. Maney, graphite shop, joined Union Carbide in 1944. He lives at 760 West Outer Drive, Oak Ridge.



Margrave

Murray

James A. Margrave, a member of the guard department since 1951, lives at 3913 Alma Avenue, Knoxville.

Edward W. Murray, chemical services, came to Y-12 in 1950. He lives at Route 3, Clinton.

PATENTS Granted

To Henry Inouye, for "Purification of Iridium."

To Richard S. Lord, Merrit L. Mallory and Ed D. Hudson, HNL, for "Cyclotron Internal Ion Source with DC Extraction."

To Ralph R. Wright, ORGDP, and James T. Dalton, formerly of ORGDP, for "Method for Plating Race Type Assemblies."



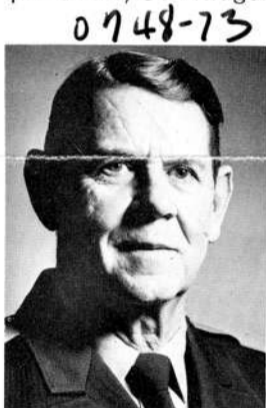
Miller

Snyder

Among Holifield National Laboratory employees retiring at the end of April were Arthur J. Miller, John E. Roberts and Francis T. Snyder.

Miller was a technical program director in the Energy Division. He had worked at the Laboratory since July, 1951. He and his wife, Catherine, reside at 7102 Cheshire Drive, Knoxville.

A project engineering department superintendent in General Engineering, Snyder has taken early retirement following more than 29 years' company service. He lives at 103 Cooper Circle, Oak Ridge.



Roberts

Roberts, a desk lieutenant in the Laboratory Protection Division, took early retirement after 32 years with Union Carbide. He lives at 3904 Carnation Drive, Knoxville, with his wife Eleanor.



Cottrell

Andrew C. Cottrell, an accounting analyst in Finance and Budget at the Oak Ridge Gaseous Diffusion Plant will retire July 1. He joined Union Carbide in 1945, and lives at 100 West Geneva Lane, Oak Ridge.

Laboratory's Baker, Huff featured in publications

Articles by two Holifield National Laboratory employees are featured in major U.S. publications this year. Philip S. Baker, manager of Records Management and Special Publications in the Information Division, has written the section "Applications of Radioisotopes" for the fifteenth edition of the **Encyclopaedia Britannica**. A condensation of "Over-the-Counter Contraceptives," authored by James Edward Huff, director of the biomedical sciences section, Information Center Complex of the Information Division, will appear later this year in both the **Nursing Digest** and **1975 Review of Maternal-Child Health and Review of Community Health**. The **1975 Review** will contain the best of the maternal-child health related articles appearing in **Nursing Digest** during the past year. Both are special publications of **Nursing Digest**.

A native of Minneapolis, Baker received his B.S. degree from DePauw University, his M.S. from the University of Arkansas and a Ph.D. in inorganic and analytical chemistry from the University of Illinois. Following teaching positions with the University of Illinois, the University of Vermont and Bradley University, he joined the Nuclear Division staff in 1951. He served successively as superintendent of the Laboratory's Isotopes Production Department, superintendent of the Isotopes Sales Department, and superintendent of the Advanced Isotopes Development Department. In 1962 Baker became director of the Isotopes Information Center and was editor of **Isotopes and Radiation Technology**. He began his present assignment in February of this year.

Baker is a Fellow of the American Institute of Chemists and the American Association for the Advancement of Science, and is on the advisory boards of **Journal of Labeled Compounds** and **Handbook of Radioisotopes**. He is a member of the American Chemical Society, the New York Academy of Sciences, and Sigma Xi and Phi Lambda Upsilon scientific honoraries. Baker lives with his wife, Marilyn, at 104 Euclid Place.



Baker

Huff

Oak Ridge. They have a son and two daughters.

Huff was born in Philadelphia and received both his B.S. and M.S. degrees from the Philadelphia College of Pharmacy and Science, and his Ph.D. degree in bionucleonics-pharmacology from Purdue University. He served in the U.S. Air Force as a hospital pharmacist and emergency room corpsman. He is registered as a pharmacist in the state of Pennsylvania.

He was associated with the University of Rochester School of Medicine and Dentistry before joining the Laboratory in 1972 as assistant director of the Toxicology Information Response Center. Since 1973 he has served as director of the biomedical sciences section, which includes the Environmental Mutagen Information Center, the Biomedical Studies Group, the Data Extraction and Analysis Group, and the Toxicology Information Response Center. He has authored or coauthored more than 35 scientific reports.

Huff was recently appointed an author for the American Pharmaceutical Association's **Handbook of Non-Prescription Drugs** revision project. His special assignment is to author the chapter on "OTC Contraceptive Products."

Huff was a Fellow of the American Foundation for Pharmaceutical Education at the Philadelphia College of Pharmacy and Science, and a U.S. Public Health Service Radiological Health Fellow at Purdue. He and his wife, the former Sylvia Williams, a graduate student in psychology at The University of Tennessee, reside with their three children at 345 East Drive, Oak Ridge.



SEMINAR DELEGATE VISITS — Lynn Bradley, center, the Paducah Plant's scholar to the Washington Workshop's Congressional Seminar, visited plant facilities recently. She is welcomed by Plant Manager Clyde C. Hopkins, right, and was accompanied by Brother Tim Molak, political science instructor from St. Mary's High School, left.

Next Issue

The next issue will be dated May 15. The deadline is May 7.



SPORTSMANSHIP AWARDS — The Union Carbide Team Number One took the Sportsmanship Award in the Adult Basketball League in Paducah; and McKinley Reed Jr. took the individual award for sportsmanship play in the rough and tumble world of basketball. Reed is seen with his trophy, and the team honor is seen at the right.

Y-12 BOWLING

Mixed League honors went to the Friskies' Alice Forseman with handicap scores of 263 in singles, 677 in handicap! Jeff Derwort rolled the high handicap game for men, 261; while Dick Huber took the high series with a 661. Alice's team, of course, won the roll-off between the Friskies and the Rollers.

The Mini-Strikes - Del Ducay, David Lannon, Norm Shamblyn, John Patton, Harold Zang and Steve Smith - had to defeat the Rounders three times for the C League championship ... first in a position roll-off, which made them tied for the season's second half ... then again to take the second half crown, then again for the total season (the Rounders won the first half.) Bill Ladd, Rollmasters, commanded a head on series rolling with a 697/718 count ... mean bowling in any league!

The Tigers tore into the Classic League roll-offs to win by one point. Harold Zang's single of 268 scratch was a season high ... while Bill Ladd (there's that name again) rolled a 699/765 series!

BASKETBALL ROUND-UP

Honors were taken in the Nuclear Basketball League by the Tired Old Men, managed by Ron Hiltunen. The Men capped top voting in the Best Sports category in league standings. In the Atomic League, the Raiders, managed by J.D. Worth, took the same honors.

CLIP & SAVE

Paducah golfers should clip and save the following summer schedule for mixed scramble tournaments.

Ballard County Country Club June 7

Rolling Hills Country Club July 26

Calvert City Country Club August 16

Mayfield Country Club September 13

Village Greens, Kentucky Dam Village October 11

LABORATORY BOWLING

The C League wound down its action in mid-April, giving its crown to the Remkeys, a full 17 points ahead of the Knuckleheads. The Timber Wolves' J.R. Muir put a 668 handicap series on the boards in the final action.

The Laboratory Ladies' League saw the Pickups glean final honors, mere points ahead of the Bowling Aces. Sally Stockstill showed bowlers a thing or two to climax the season, with a game of 220/250; series of 508/598!

The A League went to ORAU, which was no surprise. They outdistanced the Ten Pins by two and one-half games ... or 16 points.

SUMMER BOWLING IN OAK RIDGE

There will be an organization meeting for bowlers in a mixed league at 7 p.m., May 15, at the Ark Lanes, Oak Ridge. Participants wishing to bowl in summer mixed league should be there.

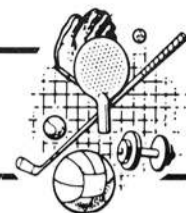
If there is sufficient interest shown in a mixed bowling league in the Knoxville area, a set-up will get underway. Bowling would take place in the Western Plaza bowling lanes. Those interested should contact the Recreation Department, extension 3-5833.

**"Sure
I'm a prize pigeon!
I practice
breast self-examination
every month."**



American Cancer Society

RECREATIONOTES



VOLLEYBALL HONORS

Sportsmanship awards went to three teams in three leagues of volleyball among Nuclear Division contestants in the Oak Ridge area. In the Atomic League, the Quarks took the prized trophy. They are managed by Robin Textor. In the Nuclear League, it was the Bawlers, managed by R.M. Walton. In the Carbon League, the Adam Smashers, the only all-women team in the league, took the top sporting award. The Smashers are managed by Janet Carney.

ORGDP BOWLING

The All Stars won the Tuesday League hands down, miles ahead of the Atoms. The Stars consists of Millard Gibson, Harold Gunter, Dan Kessell, Guinn Marrow and Lee Owens. Martin Ginsburg took season highs in singles with a game of 253/278. Sewell Brown won scratch series highs with a 661; while John Phillips won handicap series honors with a 694.

The Wednesday League saw the Planners win the roll-off, four points ahead of the pack. In final rollings John Peer rolled a 240 game; Gary McFarland posted a 704 series.

The Uptowners won the second half of the ORGDP's Women's League, and faced the Payoffs for a league roll-off last week. The Payoffs won the league's first half. Elaine Griffies recently showed her fellow bowlers how to shine on the alleys, rolling a game of 225/249; and a series of 617/689!

H & J SHIFT GOLFERS

Attention, golfers on H & J Shifts in the Nuclear Division. If you wish to play in a golf league this summer contact the Recreation Department, extension 3-5833, at once!

155 117

'Walk for mankind' set again May 10

Many Nuclear Division employees will participate in the 20-mile Walk for Mankind, May 10. The Walk, major fund-raising vehicle for Project Concern, will begin at 8 a.m. at the Civic Center. Many families of employees will walk and are ringing doorbells around the Oak Ridge area to solicit sponsors. There is no limit to the number of sponsors a walker may have, and many have already filled several pledge sheets.

David O'Kain, Oak Ridge Gaseous Diffusion Plant, is chairman of the special awards for the Walk. John Cooke, Holifield National Laboratory, and his wife, Ivy, are chairmen for the schools program. Bob Funderlic's son, Marty, has the highest pledge per mile at \$10. Funderlic is in Computer Sciences.

Proceeds from the Walk will provide medical and dental assistance to people in the United States, Mexico, Hong Kong, Bali and Malaysia. Much of the money raised locally will be used to assist the traveling dental laboratory in the Appalachian section and medical clinics providing help and health education in Clarke Range, Deer Lodge and Hanging Limb.

Walk sheets are available at the Cheese Crock, downtown Oak Ridge. More than 7,000 sheets have been distributed in Oak Ridge, Clinton, Oliver Springs, Norris and Lake City.

WORDS OF WISDOM

America is the only country where it takes more brains to make out the income tax return than it does to make the income.



ENGINEERING PICNIC — "A Saturday of Memories: an Old-Fashioned Holiday" is the theme of the annual Engineering Division (ORGDP, HNL, and Y-12) Picnic to be held Saturday, June 7, at Clark Center Recreation Park from 1 to 8 p.m. This year's event will be a 1920's-style picnic featuring a tug-of-war between the ugliest members of the Division, and a performance by a barber-shop quartet. There will also be plenty of food, as the above picture from last year's picnic shows.

Animal bites - rabies prevention

(Editor's Note: Dr. Lincoln alternates his regular column with "The Medicine Chest," where he answers questions from employees concerning their health in general. Questions are handled in strict confidence, as they are handled in our Question Box. Just address your question to "Medicine Chest," NUCLEAR DIVISION NEWS, Building 9704-2, Stop 20, or call the news editor in your plant, and give him your question on the telephone.)

By T. A. Lincoln, M.D.

When a person has been bitten by an animal, a physician has to decide whether or not antirabies injections need to be started. Since rabies prophylaxis is an unpleasant and mildly hazardous procedure, parents should know the basic ground rules so they can understand why a particular course of action was chosen. Drs. Lawrence Corey and Michael Hattwick, of the Center for Disease Control in Atlanta, have published revised recommendations in an article in the April 21 issue of the *Journal of the American Medical Association*.

Since only eight human cases of rabies were reported between 1969 and 1973, one may question the need for concern. However, rabies is almost always fatal, more than one million Americans are bitten each year and effective prophylaxis is available. Approximately 30,000 people now receive prophylaxis treatments each year and if none were given, the number of deaths would probably be far greater than the 20 which occurred each year in the 1940's before effective prevention was widely used.

The distribution of rabies cases in animals can be crudely estimated by the number of positive brain tests in heads sent to various state boards of health. From 1969 to 1973, 19,307 confirmed cases of rabies were diagnosed in a wide variety of animals. Of these, 4,239 were found in domestic, and 15,068 in wild animals. The most common wild animals were skunks, foxes, bats, and raccoons. Only 1,068 dogs and 845 cats were found to have rabies. This low incidence in pets is the result of intensive vaccination campaigns in most cities. Considering the fact that approximately 120,000 rabies prophylaxis treatments were given during the same period, it is apparent that a definite diagnosis of rabies was made in the biting animal in only about 16 percent of the cases.

What to do

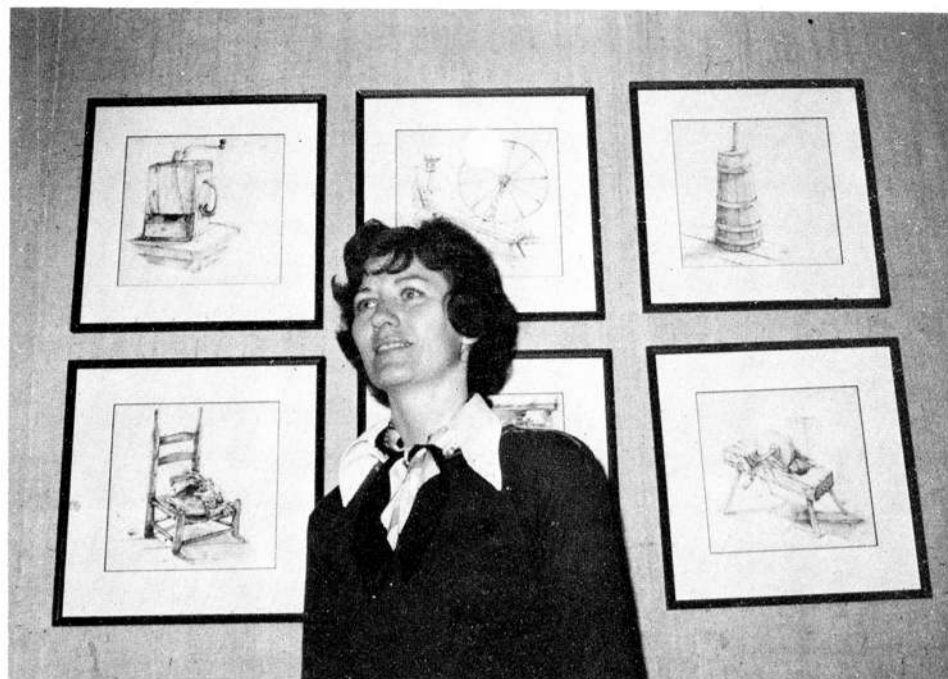
The decision not to give rabies prophylaxis when the animal has escaped has to be based on a careful evaluation of the history of the exposure. Rabies has never been proved to be caused by bites by rats, mice, chipmunks, squirrels or other rodents. It is possible that licking of scratches or abrasions by other animals, if rabid, could introduce the rabies virus present in the saliva into a wound. The likelihood, of course, is far less than during a bite.

Whenever a bite, scratch, or licking episode has occurred, every effort should be made to capture the animal. A wild animal should be killed and the head sent immediately to the state laboratory where the fluorescent antibody (FA) test will be performed on the brain. If it is negative, it is safe to assume that the saliva did not contain any virus and the exposed person need not be treated. If a pet has done the biting, it should be confined and observed for 10 days. If the animal becomes ill or develops abnormal behavior, the animal should be killed and the brain tested. The fact that the pet has received antirabies vaccine does not automatically eliminate the possibility of rabies, but certainly greatly reduces its likelihood. In East Tennessee, where rabies is prevalent, any pet, such as a dog or cat, which has bitten a person but then is lost from observation, must be assumed to have rabies. In areas where there are easy opportunities for intermingling of domesticated with stray pets as well as with wild animals, one has to assume exposure and infection are possible.

14 vaccinations required

The bite wound has to be thoroughly washed with soap and water and then flushed with copious amounts of water. Additional flushing with 1 percent benzalkonium chloride is desirable. Depending on the severity of the bite, surgical closure may be necessary. A tetanus toxoid booster is also recommended.

When the exposure has been only to a scratch or licking by a dog or cat who has escaped, 14 doses of rabies vaccine should be given. Whenever a bite has occurred and the animal cannot be observed or examined, both the rabies vaccine and either antirabies serum prepared from horses (ARS) or human rabies immune globulin (HRIG) obtained from human volunteers, should be used together. The horse serum causes serum sickness in 15 percent of children and 40 percent of adults, but the human immune globulin which doesn't cause reactions is in extremely short supply. The dose of the serum is 40 International Units (IU) per kilogram of body weight and of the globulin is 20 IU/kilogram. A total of 23 doses of duck embryo vaccine should be given when it is used with ARS. The vaccine is given subcutaneously in the abdomen and thigh and the injection sites rotated. Pain, itching, and redness are common local reactions to the vaccine. The incidence of serious central nervous system reactions to the vaccine is about three per 100,000 persons receiving the treatment.



EXHIBITS ART — Bonita Elmore, Biology Division of Holifield National Laboratory, has a current exhibit in the lobby of the Oak Ridge Playhouse. Her exhibit, which includes small graphite drawings of primitive artifacts from the Appalachian Museum in Norris, also includes large oil paintings and lithographs.

Savings Plan-Personal Investment Account

Recent unit values:

| | Fixed Income Fund | UCC Stock | Equity Investment Fund |
|-------------|-------------------|-----------|------------------------|
| December 74 | 11.04 | 40.30 | 6.43 |
| January 75 | 11.12 | 41.81 | 6.88 |
| February 75 | 11.20 | 46.90 | 7.38 |
| March 75 | 11.27 | 54.11 | 7.64 |

Note: Fixed Income Fund unit values reflect interest additions to achieve the guaranteed effective annual interest rate of 7.75% for 1974 and 8.55% for 1975. Union Carbide stock values are the average cost of stock purchases during the month plus brokerage charges. Equity Investment Fund unit values represent the month-end market value of securities held by the Fund. Dividing the total value by the number of units in the fund establishes the month's unit value - and the price at which new units are added that month.

Laboratory involved in ERDA's study on nuclear reactor heat

Holifield National Laboratory is involved in a study on possible use of nuclear reactor heat for such industrial processes as steel production, petroleum refining and conversion of coal to synthetic fuels for the Energy Research and Development Administration.

According to Robert Thorne, ERDA's acting Deputy Assistant Administrator for Nuclear Energy, a very high temperature reactor system

Individuals who have a high risk of exposure to rabid animals can be given a pre-exposure prophylaxis. Two one-milliliter injections are given one month followed by a booster dose six months after the second dose, or three doses may be given at weekly intervals followed by a booster dose three months later.

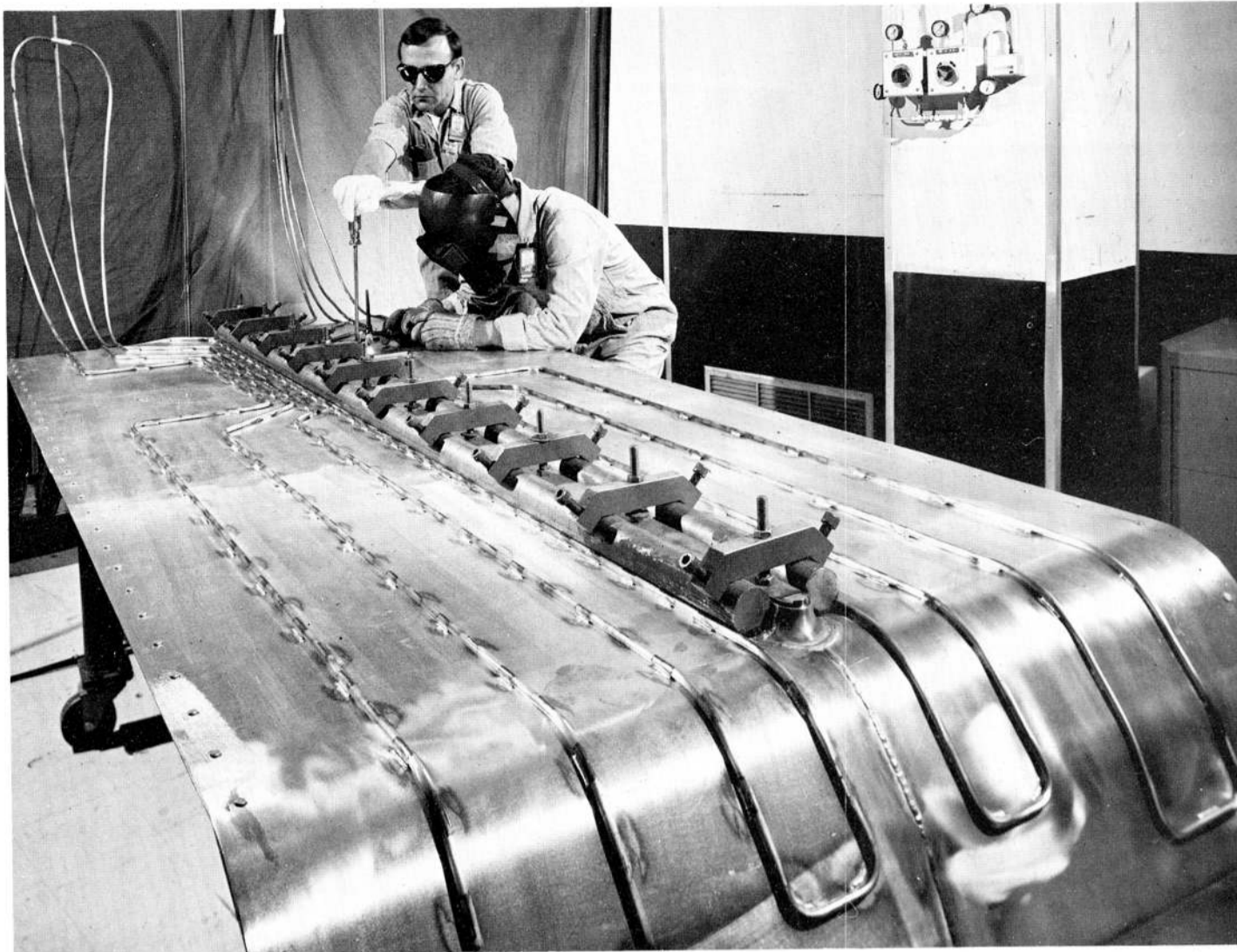
In the United States in 1973, 79 percent of all confirmed animal rabies cases occurred in wildlife, so extreme care should be exercised around wild animals which appear docile. If they are healthy, they will never allow a human to pet or hold them. Never trap a wild animal and attempt to tame it. Always avoid stray dogs or cats, especially if they could have been exposed to wild animals. Any bite or scratch by a bat should be considered dangerous.

would have to be developed for production of the necessary process heat up to 2,000 degrees F.

He said the use of nuclear process heat to produce synthetic fuels from coal would provide an efficient, integrated use of fossil and nuclear fuels to meet energy requirements.

Conceptual designs for high temperature reactors to produce process heat have been developed for ERDA by General Atomic, General Electric and Westinghouse. Companion studies on the industrial processes which would use the heat are being performed by other organizations including the National Aeronautics and Space Administration, the American Iron and Steel Institute and ERDA's Los Alamos (New Mexico) Scientific Laboratory.

The program in Oak Ridge, which is under the direction of Irving Spiwak, Reactor Division, will assess the results of the study, which will include a cost-benefit analysis. The Laboratory is also separately exploring the application of existing reactor technology to meet low temperature industrial process heat needs up to 1,000 degrees F, with a particular view toward defining one or more possible near-term cooperative demonstration projects.



COPPER TUBING POSITIONED — John Satterfield, in dark goggles, positions copper tubing on a section of a cyclotron resonator while Clyde Nance completes the welding. Each resonator used about one-half mile of copper tubing and over 2,000 feet of silver braze welding.

Resonator

(Continued from page 1)

Engineering and Scheduling Division. He managed the technical and administrative aspects of the project, working closely with the Fabrication Division personnel and with senior designer William Hoffert, of Indiana University, to accomplish the task.

The IUFC has required more than six years and \$11 million to build, with construction costs divided between the University and the National Science Foundation. Initial operation is expected later this year.

DIVISION DEATH

James E. De Vaney, Alpha 5 east shop, Y-12, died at his Route 4, Rockwood home, April 14.

A native of Roane County, he came to work in the Oak Ridge Gaseous Diffusion Plant in 1952, later transferring to Y-12. Before joining Union Carbide, he was employed by the U.S. Department of Forestry, Rockwood Hosiery Mill and Tennessee Products and Chemicals Corporation.



Mr. De Vaney

Survivors include his wife, Iona De Vaney, two sons, Floyd and David De Vaney, and two grandchildren.

Funeral services were held in Booth's Chapel, with burial in the Odd Fellows Cemetery, Rockwood. The Rev. Thomas R. Burkett officiated at the last rites.

COMPANY Service

20 25 30

ORGDP 30 YEARS

Ada E. Anderson, janitors department; Robert J. Wertz, isotope analysis department; Edward C. Kirstowsky, maintenance engineering department; William T. Turpin, grounds maintenance department; Burl W. Fralix, shop services department; and Johnnie W. Burgess, stores department.

20 YEARS

Avery E. Harvey.

Y-12 PLANT 30 YEARS

Thomas A. Gardner, buildings, grounds and maintenance shops; Deborah W. Kiviniemi, production analysis; Kenneth S. Fugate, Beta 2 chemistry; James R. Robinette, stores department; and Francis O. Gaddis, research services.

25 YEARS

William H. Stanton Jr., William H. Moses and Walker A. Rutherford.

PADUCAH 30 YEARS

Clarence W. "Bill" Loveland Jr., production engineering.

LABORATORY 30 YEARS

Marie M. Cardwell, Information; Thomas K. Walters Jr., Reactor; Talmage M. Sirmans, Operations; John W. Michel, Central Management Offices; Henry Zeldes, Chemistry, and Samuel L. Flippen Jr., Isotopes.

25 YEARS

Rebecca Rickman, James A. Ellis, Corbett Brashear, Robert E. Hopper,

William J. Hatcher, Marion E. Wimberley, Charles K. Talbott.

Joe Bolinsky Jr., Virginia M. Wells, John H. Mitchell, James W. Woody Jr., Wallace G. Hylton, Woodrow Grove and Rufus Ritchie.

20 YEARS

Charles V. Hardin, Charles E. Roberts, Joe W. Gooch Jr., Oma Charlene Reynolds, Victor K. Pare, Melvyn L. Halbert.

Carus K. Dubose, James E. Bacon, Paul B. Dunaway, James R. Weir, Jr., Herbert M. Johnson and Robert W. Ormsby.

QUESTION BOX



(Continued from page 3)

QUESTION: I recently heard of a case where a Laboratory employment prospect with a degree was offered a job but refused unless the prospect's spouse (who did not have a degree) was also offered a job. Both were hired. Does this happen very often? What is the Company's policy of offering or making a job for a prospect's spouse as an added inducement to get the person to join the Company?

ANSWER: At times both a prospect and a spouse are offered employment in the Nuclear Division. It is our policy to evaluate each applicant on his or her own merit in relation to the job to be filled. When both husband and wife are applicants, meet the job criteria, and are employed, it can be beneficial to all concerned.

QUESTION: Can anyone give us a rational explanation of why exempt personnel were required to fill out a job description questionnaire? Shouldn't management of one of the giants of the chemical industry know what research scientists, shop foremen, etc., do for a living?

ANSWER: The Nuclear Division, as well as all other Divisions of Union Carbide Corporation, is in the process of reevaluating all exempt salaried positions. Most monthly employees have been asked to complete Exempt Position Questionnaires.

Management does know what research scientists, shop foremen, etc. normally do. In positions where there are many incumbents, the individual descriptions, although not a necessity, help us to identify employees improperly classified. In positions peculiar to our own operations, the descriptions are a necessity to assure a proper evaluation.



UNION CARBIDE CORPORATION

NUCLEAR DIVISION

P. O. BOX Y, OAK RIDGE, TENNESSEE 37830

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